in spaced relationship from the component,

severing the stem at the second stem end to define a skeleton,

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component,

eliminating the sacrificial member.

16. (AS FILED, ALLOWED) The method as claimed in Claim 15, wherein during the eliminating step the second stem ends are severed from the sacrificial member.

17. (REJECTED 112/2 and 103, AMENDED) The method as claimed in Claim [6, 7, 8, 9, 14 or] 15, performed on a plurality of the terminals on the electronic component.

18. (REJECTED §112/2 and §103, AMENDED) The method as claimed in Claim 15, performed on a plurality of wires on a plurality of the terminals on the electronic component.

19. (REJECTED §112/2 and §103, AMENDED) The method as claimed in Claim 15, wherein:

the bonding is performed by applying at least one of a group consisting of superambient pressure, superambient temperature and ultrasonic energy.

20. (REJECTED §112/2 and §103, AMENDED) The method as claimed in Claim 15, wherein:

the severing of the second end is performed by melting the wire.

21. (REJECTED §112/2, OTHERWISE ALLOWABLE, AMENDED) The method as claimed in Claim 15 wherein:

the forming steps and the severing steps are performed by a wirebonding apparatus, and

after the severing steps but before the depositing step,

shaping the skeleton by means of a tool external to the apparatus.

7

~~22~~. (REJECTED §112/2 and §103, AMENDED) The method as claimed in Claim ~~15~~, 1 wherein:

the severing of the second end is performed by mechanical shearing.

8

~~23~~. (REJECTED §112/2 and §103, AMENDED) The method as claimed in Claim ~~15~~, 1 wherein:

the stem has a shape; and

further comprising:

during the forming step, the shape of the stems is determined by means of a software algorithm in a control system of an automated wirebonding apparatus.

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~~24~~. (REJECTED §103, AMENDED) The method as claimed in Claim ~~15~~, performed on a plurality of the terminals, wherein a shape of the skeleton and mechanical properties of the conductive material are organized collectively to impart resilience to the protuberant conductive contact.

69

~~25~~. (OBJECTED TO, REWRITTEN) A method for mounting a protuberant conductive contact to a conductive terminal on an electronic component, the method comprising the sequential steps of:

providing a wire having a continuous feed end,

intimately bonding the feed end to the terminal,

forming from the bonded feed end a stem which protrudes from the terminal and has a first stem end thereat,

bonding a second stem end to a sacrificial member mounted in spaced relationship from the component,

severing the stem at the second stem end to define a skeleton,

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component, and

47

eliminating the sacrificial member,

further comprising:

performing the method on a plurality of the terminals, wherein a shape of the skeleton and mechanical properties of the conductive material are organized collectively to impart resilience to the protuberant conductive contact;

wherein the conductive material is provided with a multitude of microprotrusions on its surface.

49

~~26.~~ (REJECTED §112/2, OTHERWISE ALLOWABLE, AMENDED) The method as claimed in Claim ~~15~~ 1 wherein:

the conductive material enveloping the skeleton and at least the adjacent surface of the component comprises a plurality of dissimilar layers.

B1

67

~~27.~~ (OBJECTED TO, REWRITTEN) A method for mounting a protuberant conductive contact to a conductive terminal on an electronic component, the method comprising the sequential steps of:

providing a wire having a continuous feed end,

intimately bonding the feed end to the terminal,

forming from the bonded feed end a stem which protrudes from the terminal and has a first stem end thereat,

bonding a second stem end to a sacrificial member mounted in spaced relationship from the component,

severing the stem at the second stem end to define a skeleton,

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component, and

eliminating the sacrificial member,

further comprising:

performing the method on a plurality of the terminals, wherein a shape of the skeleton and mechanical properties of the conductive material are organized collectively to impart resilience to the protuberant conductive contact;

wherein the depositing step includes placement of a plurality of layers each differing from one another.

68

~~28~~. (OBJECTED TO, AMENDMENT NOT REQUIRED) The method as claimed in Claim ~~27~~, 67 wherein at least one of the layers comprising conductive material has a jagged topography in order to reduce contact resistance of the protuberant conductive contact when mated to a matching terminal.

B1

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~~29~~. (WITHDRAWN FROM CONSIDERATION, AMENDED) The method as claimed in Claim ~~15~~, 1 wherein:

the deposition is performed by means of electrochemical plating in an ionic solution.

Cancel claims 30-35, without prejudice.

51

~~36~~. (NOT CONSIDERED, AMENDED) The method as claimed in Claim ~~15~~, wherein the conductive material is reactive with the wire stem; and further comprising:

B2

a barrier layer which is not reactive with the wire stem disposed between the wire stem and the conductive material.

52

~~37~~. (NOT CONSIDERED, AMENDED) The method as claimed in Claim 51 ~~36~~, wherein the wire is gold and the conductive layer contains tin.

Claim 38 has previously been cancelled.

Cancel claims 39-49, without prejudice.

63

~~50~~. A method for mounting a conductive contact to a conductive terminal on an electronic component, the method comprising the steps of:

B3

first, providing a wire having a continuous feed end, and bonding the feed end to the terminal,

after bonding the feed end, forming, from the bonded feed end, a stem which protrudes from the terminal, said stem having a first stem end which is the bonded feed end,

after forming the stem, bonding a second stem end to a sacrificial member mounted in spaced relationship from the component,

after bonding the second stem end, severing the stem at the second stem end to define a skeleton, and

further comprising:

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component,

eliminating the sacrificial member.

64 51. A method for mounting a conductive contact to a conductive terminal on an electronic component, the method comprising the sequential steps of:

providing a wire having a continuous feed end,

bonding the feed end to a sacrificial member;

forming from the bonded feed end a stem which protrudes from the component, said stem having a first stem end which is the bonded feed end and a second stem end at an opposite end of the stem;

bonding the second stem end to a terminal on the electronic component;

severing the stem at the second stem end to define a skeleton,

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component, and

eliminating the sacrificial member.

65 52. A method for mounting a conductive contact to an area on a surface of an electronic component, the method comprising the steps of:

providing a wire having a continuous feed end,

bonding the feed end to the terminal,

forming, from the bonded feed end, a stem which protrudes from the terminal, said stem having a first stem end which is the bonded feed end,

bonding a second stem end to a sacrificial member mounted in spaced relationship from the component,

severing the stem at the second stem end to define a skeleton,

depositing a conductive material to envelop the skeleton and at least adjacent surface of the component,

eliminating the sacrificial member.

B3 ~~58~~ 66. A method for mounting a conductive contact to an area on a surface of an electronic component, the method comprising the steps of:

providing a wire having a continuous feed end,

bonding the feed end to the terminal,

forming, from the bonded feed end, a stem which protrudes from the terminal said stem having a first stem end which is the bonded feed end,

bonding a second stem end to a sacrificial member mounted in spaced relationship from the component,

severing the stem at the second stem end to define a skeleton,

eliminating the sacrificial member; and

after eliminating the sacrificial member, depositing a conductive material to envelop the skeleton and at least adjacent surface of the component.

E Cancel claims 54-57, without prejudice.

B4 43 ~~58~~. The method as claimed in Claim ~~17,~~ 42 performed on a plurality of wires on a plurality of the terminals on the electronic component.

E Cancel claims 59-78, without prejudice.

~~79.~~ 10 The method as claimed in Claim ~~15~~ 1, wherein:
the conductive material enveloping the skeleton and at least the adjacent surface of the component comprises a plurality of dissimilar layers.

B5

~~80.~~ 44 The method as claimed in Claim ~~17~~ 42, wherein:
the conductive material enveloping the skeleton and at least the adjacent surface of the component comprises a plurality of layers.

E

Cancel claims 81-92, without prejudice.

B6 45 ~~93~~. The method as claimed in claim ~~17~~ 42, wherein:
the deposition is performed by means of electrochemical plating in an ionic solution.

E

Cancel claims 94-104, without prejudice.

B7 11 ~~105.~~ Method, as set forth in claim ~~15~~ 1, wherein:
the conductive material is deposited by an electroless plating process.

E

Cancel claims 106-109, without prejudice.

B8 12 ~~110~~. Method, as set forth in claim ~~15~~ 1, further comprising:
during deposition of the conductive material, causing a compressive internal stress in the conductive material.

E

Cancel claims 111-114, without prejudice.

B9 ~~115.~~ The method, as claimed in Claim ~~15~~ 1, wherein:
13 the cross-sectional area of the wire is rectangular.

E

Cancel claims 116-118, without prejudice.

14 ~~119~~. The method as claimed in Claim ~~15~~, 1 wherein:

the wire is made of a metal selected from a group consisting of gold, silver, beryllium, copper, aluminum, rhodium, ruthenium, palladium, platinum, cadmium, tin, lead, indium, antimony, phosphorous, boron, nickel, magnesium, and their alloys, and

B10 the conductive material is deposited as a plurality of layers, and at least one of the layers of the conductive material is a metal selected from a group consisting of nickel, phosphorous, boron, cobalt, iron, chromium, copper, zinc, tungsten, tin, lead, bismuth, indium, cadmium, antimony, gold, silver, rhodium, palladium, ruthenium, and their alloys.

C Cancel claims 120-124, without prejudice.

15 ~~125~~. The method as claimed in Claim ~~15~~, 1 wherein:

B11 the wire is made of a metal selected from a group consisting of gold, silver, beryllium, copper, aluminum, rhodium, ruthenium, palladium, platinum, cadmium, tin, lead, indium, antimony, phosphorous, boron, nickel, magnesium, and their alloys.

C Cancel claims 126-129, without prejudice.

16 ~~130~~. The method as claimed in Claim ~~15~~, 1 wherein:

B12 the conductive material is deposited as a plurality of layers, and at least one of the layers of the conductive material is a metal selected from a group consisting of nickel, phosphorous, boron, cobalt, iron, chromium, copper, zinc, tungsten, tin, lead, bismuth, indium, cadmium, antimony, gold, silver, rhodium, palladium, ruthenium, and their alloys.

C Cancel claims 131-138, without prejudice.

17 ~~139~~. A method, according to claim 15, 1 further comprising:

B13

performing the method on at least one terminal on an electronic component, wherein:

the wire is made primarily of a metal selected from a group consisting of gold, copper, aluminum, silver, lead, tin, indium and their alloys;

B13 the skeleton is coated with a first layer of the conductive material selected from a group consisting of nickel, cobalt, boron, phosphorous, copper, tungsten, titanium, chromium, and their alloys;

a top layer of the conductive material is solder selected from a group consisting of lead, tin, indium, bismuth, antimony, gold, silver, cadmium and alloys thereof and their alloys.

C Cancel claims 140-142, without prejudice.

46 ~~143~~. The method as claimed in Claim ~~17,~~ 42 wherein the conductive material is reactive with the wire stem; and

further comprising:

a barrier layer which is not reactive with the wire stem disposed between the wire stem and the conductive material.

B14 48 ~~144.~~ The method as claimed in Claim ~~24,~~ 47 wherein the conductive material is reactive with the wire stem; and

further comprising:

a barrier layer which is not reactive with the wire stem disposed between the wire stem and the conductive material.

50 ~~145.~~ The method as claimed in Claim ~~26,~~ 49 wherein the conductive material is reactive with the wire stem; and

further comprising:

a barrier layer which is not reactive with the wire stem disposed between the wire stem and the conductive material.

69 ~~146.~~ The method as claimed in Claim ~~27,~~ 67 wherein the conductive material is reactive with the wire stem; and

B14

further comprising:

a barrier layer which is not reactive with the wire stem disposed between the wire stem and the conductive material.

Cancel claims 147-151, without prejudice.

B15

18

~~152.~~ The method as claimed in Claim ~~15~~, wherein:

each of two surfaces of the electronic component has at least one protuberant contact mounted thereto.

Cancel claims 153-157, without prejudice.

B16

19

~~158.~~ The method as claimed in Claim ~~15~~, wherein:

the wire stem is S-shaped.

Additionally, please amend the following claims, as follows:

Cancel claims 159-160, without prejudice.

20

~~161.~~ (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the stem has a length; and

the conductive coating covers the entire length of the [wire] stem.

B17

21

~~162.~~ (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the conductive material is applied in multiple coating layers; and

at least one of the multiple coating layers [layer of the conductive coating] is deposited along the entire length of the [wire] stem.

22

~~163.~~ (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the stem has a length; and

the conductive [coating] material covers only a portion of the length of the [wire] stem.

23 B17 ~~164~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, further comprising:

supplying the wire from a spool of wire.

Cancel claims 165-172, without prejudice.

24 ~~173~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is an interconnection substrate.

59 ~~174~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is a semiconductor device.

60 ~~175~~. (AMENDED) Method, according to claim [134] ~~174~~ 59, wherein:
the semiconductor device is a silicon device.

61 B18 ~~176~~. (AMENDED) Method, according to claim [134] ~~174~~ 59, wherein:
the semiconductor device is a gallium arsenide device.

25 ~~177~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is an interconnect socket.

26 ~~178~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is a test socket.

27 ~~179~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is a semiconductor wafer.

28 ~~180~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is a ceramic semiconductor package.

29 ~~181~~. (AMENDED) Method, according to claim [160] ~~15~~ 1, wherein:
the electronic component is a plastic semiconductor package.

30 1

~~182~~. (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the [wire] stem is bonded to the surface of the electronic component using ultrasonic bonding equipment.

31 1

~~183~~. (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the wire [stem] is bonded to the surface of the electronic component using thermosonic bonding equipment.

32 1

~~184~~. (AMENDED) Method, according to claim [160] ~~15~~, wherein:

the wire [stem] is bonded to the surface of the electronic component using thermocompression bonding equipment.

33 1

~~185~~. (AMENDED) Method, according to claim [160] ~~15~~, wherein wirebonding equipment is used to bond the feed end of the wire [stem] to [the] a surface of the electronic component, and further comprising:

B14

during [shaping] forming, controlling all aspects of geometric characteristics of the [wire] stem with a specific set of commands entered into an electronic control system of the wirebonding equipment.

34 1

~~186~~. (AMENDED) Method, according to claim [160] ~~15~~, wherein:

an end of the wire which is opposite the feed end of the wire is a free end; and

automated wirebonding equipment, controllable by a software algorithm, is used to [shape] form the [wire] stem and to determine [the] a coordinate of a tip of its free end.

35 1

~~187~~. (AMENDED) Method, according to claim [160] ~~15~~, further comprising:

[shaping] forming the [wire] stem with automated equipment controlled by a control system, according to a set of specified parameters.

Cancel claims 188-193, without prejudice.

~~194.~~ 36 (AMENDED) Method, according to claim [160] ~~15~~, wherein: the conductive [coating] material is deposited by a process selected from the group consisting of physical vapor deposition and chemical vapor deposition.

~~195.~~ 37 (AMENDED) Method, according to claim [160] ~~15~~, wherein: the conductive [coating] material is deposited by a process that involves the decomposition of gaseous, liquid or solid precursors.

Cancel claims 196-203, without prejudice.

53 ~~204.~~ (AMENDED) Method, according to claim [160] ~~15~~, wherein: the wire [stem] has a diameter between 0.0005 and 0.005 inches.

~~205.~~ 54 (AMENDED) Method, according to claim 53 ~~204~~, wherein: the wire [stem] has a diameter between 0.0007 and 0.003 inches

Cancel claim 206, without prejudice.

~~207.~~ 38 (AMENDED) Method, according to claim [160] ~~15~~, wherein: the [coating] conductive material has a tensile strength in excess of 80,000 pounds per square inch.

Cancel claim 208, without prejudice.

~~209.~~ 55 (AMENDED) Method, according to claim [160] ~~15~~, wherein: the [nickel has] conductive material is deposited to a thickness between 0.00005 and 0.007 inches.

~~210.~~ 56 (AMENDED) Method, according to claim 55 ~~209~~, wherein:

B22 the [nickel has] conductive material is deposited to a thickness between 0.00010 and 0.003 inches.

Cancel claims 211-218, without prejudice.

39 ~~219~~. (AMENDED) Method, according to claim [160] ~~15,~~ wherein:

B23 the conductive contact has controlled characteristics selected from the group consisting of physical properties, metallurgical properties, mechanical properties, bulk and surface.

Cancel claims 220-222, without prejudice.

40 ~~223.~~ (AMENDED) Method, according to claim [160] ~~15,~~ further comprising:

B24 bonding, shaping and severing a plurality of [wire] stems, a first portion of the [wire] stems originating from a first level of the electronic component, a second portion of the [wire] stems originating from a second level of the electronic component, said first level and said second level being non-coplanar with one another;

wherein:

the free ends of said plurality of [wire] stems are severed to be substantially coplanar with one another.

Cancel claims 224-241, without prejudice.

57 ~~242.~~ (AMENDED) Method, according to claim [160] ~~15,~~ wherein:

the wire [stem] has a diameter between 0.0005 and 0.005 inches; and

B25 further comprising:

prior to depositing the [solder] conductive material, coating the [wire] stem with nickel having a thickness between 0.00005 and 0.007 inches.

58 ~~243~~. (AMENDED) Method, according to claim ~~242,~~ 57 wherein: